



Storage Systems

BATTERY STORAGE SYSTEM OUTDOOR BSO 50-88/109



- **All-in-one battery storage system for outdoor use**
- **Outdoor cabinet with protection type IP65 / IP54**
- **Easy & quick installation** – components pre-installed
- **High safety standard** – Gas & smoke sensors, fire protection system
- **Heating & cooling included**



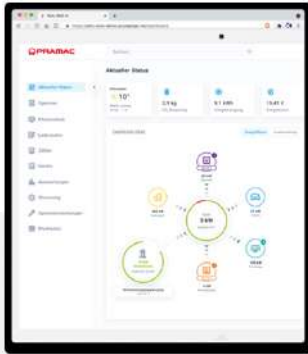
- **Commercial and Industrial Buildings** – Peak shaving, Self-consumption, Time of Use, Energy Trading
- **Buffer storage for EV fast charging** – Increasing the usable output
- **Agricultural buildings** – Use of PV electricity after end of subsidies
- **Urban storage or new buildings** – Reducing the load on the transformer



- **Pramac Storage Systems** – leading supplier of power electronics
- **Proven technology** – For a wide range of battery applications
- **Strong team** – With a global partner
- **Reliable energy storage solutions** – Indoor / Outdoor / Container



BATTERY STORAGE SYSTEM OUTDOOR BSO



| TECHNICAL DATA OUTDOOR SYSTEM | BSO 50/109 | BSO 88/109 |
|-------------------------------|------------|------------|
|-------------------------------|------------|------------|

| Battery data | | |
|--------------|--|--|
|--------------|--|--|

| | | |
|------------------------------------|--|--------------------|
| Total capacity (kWh) | | 109 |
| Rated capacity (kWh) (90% DoD) | | 98 |
| Rated voltage (Vdc) | | 736 |
| Max. Charge/discharge current (A) | | 148 |
| Cell type | | Li-Ion (LFP) Pouch |
| Cycles @ 90% DoD 65% SoH 1C/1C | | 7.300 |

| Battery Inverter | PBI 50K-PC | PBI 88K-PC |
|------------------|------------|------------|
|------------------|------------|------------|

| | | |
|-------------------------|----|-------------------|
| Rated power (kW) | 50 | 88* |
| Rated voltage (Vac) | | 380 / 400 / 415 |
| Maximum AC current (A) | | 128 |
| AC grid connection | | 3P, PE / TN-C |
| Rated frequency (Hz) | | 50 |
| THDi (%) | | < 3 |
| AC power factor / range | | 1 / 0,3i ... 0,3c |
| Max. Efficiency (%) | | 98,6 |
| Topology | | Transformerless |

*Power reduction from 33 °C ambient temperature

| Safety devices System | | |
|-----------------------|--|--|
|-----------------------|--|--|

| | | |
|----------------|-----------------|--|
| Safety devices | Active devices | Permanent monitoring of the Battery cells CO sensor H ₂ sensor Smoke sensor Exhaust fan |
| | Passive devices | Extinguishing system with Novec 1230 Overpressure flap |

BATTERY STORAGE SYSTEM OUTDOOR BSO

| General data | | |
|---|----------------------------|---|
| Operating temperature range (°C) | | -20 to +50 |
| Cooling/heating concept | Battery room | Cooling power 2 kW Heating power 1 kW |
| | Inverter room | Smart active cooling |
| Dimensions (W×D×H, mm) | | 1500×1108×2320 |
| Total weight (kg) Incl. Batteries and Inverter | | 2.100 |
| Protection type | | IP 65 (Battery room) / IP 54 (Inverter room) |
| Max. permissible installation height (m) | | 3.000 |
| Corrosion resistance of the housing | | C3 |
| Colour housing | | RAL9016 / Pantone 382 C |
| Interfaces | | RJ45 (Ethernet) |
| Certification / Approvals | Battery system | CE / UN 38.3 / UN 3481 / IEC 62619 / IEC 63056 / UL 1973 / UL 9540A / VDE 2510-50 / EN 61000-6-2 / EN 61000-6-4 |
| | EU Directives | 2014/30/EU / 2014/35/EU / 2011/65/EU |
| | Battery Inverter | Product Safety IEC 62109-1 / IEC 62109-2 / IEC 62116 / IEC 61727 / IEC 62477-1 / IEC 61439-1 / IEC 61439-2 / |
| | Grid connection conditions | DIN VDE V 0126-1-1 / VDE AR-N 4105:2018 / VDE AR-N 4110:2018 / TOR Erzeuger Typ A/B / UTE C15-712-1 VFR 2019 / C10/11 / G99 / EN 50549-1/-2 |
| Warranty | | 5 years product warranty 10 years performance guarantee |

All certificates are available online at www.pramac.com

BATTERY STORAGE SYSTEM OUTDOOR BSO

Pramac Smart Energy Controller (PSEC) PSEC-DMXX

Basic functions



Monitoring – visualization of energy flows & 24/7 historical data



Local & Cloud access



Operations management



Peak shaving



Self-consumption optimization



Time-of-Use

Interfaces



Local and Cloud-to-Cloud REST API

Compatible with

Charging stations

EnerCharge

Alpitronic

Energy meter

Janitza

Acrel

Carlo Gavazzi